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Joint Geometric Analysis Seminar

(Part of MIST program)

Existence theory of the weak inverse mean curvature flow

Mr. Kai Xu
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Abstract

Inverse mean curvature flow is a parabolic flow that moves a hypersurface by the reciprocal of its mean curvature. In 2001, Huisken and Ilmanen developed a weak notion of inverse mean curvature flow in their proof of the Riemannian Penrose inequality for single horizon. In this talk, we discuss the existence theory of the initial value problem for weak inverse mean curvature flow. We will address how the existence problem is related to the geometry of the underlying manifold. In particular, we will explain the speaker's recent result, stating that a certain isoperimetric inequality implies the existence of the desired weak solutions.

Date: 15 March 2024 (Friday)
Time: 10:30 am-11:30 am
Venue: AB1 502a

All are Welcome